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CATALOGUE

ARIZONA TERRITORIAL NORMAL SCHOOL.

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CATALOGUE

OF THE

ARIZONA TERRITORIAL NORMAL SCHOOL

AT

TEMPE, ARIZONA,

FOR THE

SCHOOL YEAR ENDING JUNE 30, 1891,

AND

CIRCULAR FOR 1891-1892.

BOARD OF EDUCATION.

HON. GEORGE W. CHEYNEY.....Tombstone
Superintendent of Public Instruction [*Ex-Officio.*]

COL. WILLIAM CHRISTY.....Phœnix
Territorial Treasurer [*Ex-Officio.*]

J. H. BROOMELL.....Phœnix

A. J. HALBERT.....Tempe

W. E. GUILD.....Florence

OFFICERS OF BOARD.

J. H. BROOMELL.....President

WILLIAM CHRISTY.....Treasurer

A. J. HALBERT.....Secretary

The regular meetings of the Board take place the first week in January and in June each year.

BOARD OF VISITORS.

HON. T. C. JORDAN.....Tempe

MRS. G. N. GAGE.....Tempe

JAMES W. WOOLF.....Tempe

FACULTY.

DAYTON A. REED.....Principal

Teacher of Language, Mathematics, Civil Government and Ethics.

EDGAR L. STORMENT.....Assistant Principal

Teacher of History, Literature, Natural Science and Pedagogy.

HISTORY.

The Arizona Territorial Normal School was established at Tempe by an Act of the Thirteenth Legislature, amended and re-enacted March 10, 1887.

The objects of the school were declared by said Act to be the instruction of persons, both male and female, in the art of teaching, and in all the various branches that pertain to a good common school education; also to give instruction in husbandry and agricultural chemistry, in the fundamental law of the United States, and in what regards the rights and duties of citizenship.

The school has been in active operation for five years, during which time there have attended the institution one hundred and seven students, and thirteen have been graduated, ten of whom have taught in the Territorial public schools since graduation. Many others who have not graduated are doing active and meritorious work in the schools.

GENERAL INFORMATION.

LOCATION.

The Territorial Normal School is located at Tempe, Maricopa County, on the line of the Maricopa and Phœnix Railroad.

Its situation is in a healthy locality and in the midst of a farming community characterized by industry, thrift, good morals and good order.

QUALIFICATIONS FOR ADMISSION.

Applicants for admission must not be less than fifteen years of age.

They must be of good morals and of industrious habits.

They must be able to pass an examination showing their ability to parse the words of any ordinary sentence; to solve any problem in arithmetic up to and including common and decimal fractions; in geography, to bound any State or Territory and locate the principal rivers, cities, etc., of the world; to write a legible hand, and to read intelligently.

Applicants holding Arizona Territorial or County Certificates, or Diplomas of Graduation from any public Grammar or High School, will be admitted without examination.

Regular examinations for admission will be held on the first and second days of each term.

For the accommodation of students entering later in the term, special examinations will be given on Monday of each week.

ACCOMMODATIONS.

The Normal School building is situated on a twenty-acre tract of land, and is a brick structure, sixty by seventy feet in size, and one story high. A ten-foot hall extends through the building from north to south.

Four rooms are provided, each thirty feet square.

The entrance to the hall at each end is by double doors; and windows placed at regular intervals of a few feet around the rooms afford ample light and ventilation.

The building is surmounted by a high roof, leaving a space of eight feet between the roof and the ceiling. The entire structure is surrounded by a veranda twelve feet wide. Ventilators admit the passage of air in every direction, thus providing as cool a building as can be devised for this climate.

During the year the building has been repainted and remodeled throughout, the grounds have been artistically arranged, planted in shrubbery and trees, and two small rooms have been furnished for the toilet, and supplied with water from a large tank by a system of piping.

APPARATUS.

The school is provided with excellent apparatus for illustrating the various subjects taught, and additions will be made to the supply of chemical, philosophical, and other apparatus as the same may be needed. During the year a complete and valuable supply of chemicals has been added to the department of natural science.

LIBRARY.

The Normal Library now consists of five hundred volumes, covering the fields of history, science, education and literature. The valuable Smithsonian scientific publications have been placed in the library, and the principal magazines and reviews are received by the institution regularly. All necessary books of reference are at the service of the students.

Students alone are allowed to take books from the building, and then only for two weeks (if called for by another student), and are held responsible for the return of the volume in good condition.

MUSEUM.

We respectfully solicit the friends of education to assist us in the collection of specimens of birds, insects, minerals, etc.; also fossils and archæological specimens.

The name of the donor, the location from which the specimen was obtained, and all other particulars known should accompany the package. All contributions should be boxed carefully and sent by express to the Normal School, Tempe.

During the last year friends of the school have given many valuable specimens. By their aid, and the activity of students and teachers, the school now possesses a working collection of minerals, ores, insects, Arizona plants and geological formations; many of the more common archæological remains have also been received. During the winter Mr. E. C. Toothaker, of Sandoval, Ills., has used his leisure moments in preparing for the institution a small but rare collection of the fauna of the coal period, which will be ready for the use of students by September, 1891.

EXPENSES.

The average cost for books, supplies, etc., will be about $15.00 per pupil for each year. Good board and lodging can be easily obtained in the best private families, at prices ranging from $20.00 to $25.00 per month. By the formation of clubs expenses can be reduced below even this amount.

Tuition is free to those who obtain an appointment from a member of the Legislature, and to those who sign a declaration that they attend the school for the purpose of preparing themselves for teaching in the public schools of Arizona. All others are charged one dollar per month.

GRADUATION.

In order to graduate, the student must be at least eighteen years of age, must have attended the school for a period of at least twenty-two weeks, and must pass a written examination in all the studies of the course.

If it appears from the resulting papers and the record of daily recitations and deportment that the applicants for graduation possess the learning and other qualifications necessary to teach a good common school, said persons shall receive certificates of graduation which will entitle the holders to teach a grammar school in any county in the Territory of Arizona.

DISCIPLINE.

In a Normal School little need be said concerning discipline.

It is expected that every pupil will exhibit in his daily conduct those qualities of head and heart which should always distinguish the earnest learner and teacher.

The ability to control others is never found in those who cannot control themselves. In accordance with this principle, the pupils will be expected so to conduct themselves as to merit the appellation of true men and women—an honor to themselves and their communities.

SUGGESTIONS.

It is suggested that students purchase no books until they have consulted their teachers, but it is well to bring those which they already possess.

We earnestly solicit Teachers and County Superintendents to urge upon those who intend to become teachers the importance of entering some department of the Normal School (the pedagogical certainly), for the sake of obtaining that helpful training, the lack of which has hampered so many of our educators.

County Superintendents and Boards of Trustees in want of teachers are respectfully and earnestly solicited to communicate with the Principal of the Normal School.

Although the primary idea of the Normal School is to prepare for the schools of the Territory a supply of teachers, trained and equipped for their work, it is also intended to furnish an opportunity to the youth of our country to secure an education beyond that possible in the Grammar School, and to round out and complete the Common School system of the Territory.

The course of study at the Normal School will therefore follow that of the Public Schools in regular sequence, and pupils on completing the Grammar course will be eligible to admittance to the Normal, and we request the School Principals that they second our efforts in this direction.

To parents throughout the Territory we offer an opportunity to educate their children at home equal to that offered by other similar institutions elsewhere. We ask the people of Arizona to compare our course and work with those of other Normal Schools.

COURSE OF STUDY.

	First Year.			Second Year.			Third Year.		
	1	2	3	1	2	3	1	2	3
Reading	†	†	†	.....	.....	.....	.....	.....	.....
Geography	†	†	†	.....	.....	†	.....	.....	.....
Grammar	†	†	†	.....	.....	.....	.....	.....	†
History	†	†		.....	.....	.....	†	.....	.....
Drawing	†	†	†	.....	.....	.....	.....	.....	.....
Arithmetic	†	†	†	†	†	.....	.....	.....	†
Spelling	†	†	†	.....	.....	.....	.....	.....	.....
Writing	.....	.....	†	.....	.....	.....	.....	.....	.....
Rhetoric*	.....	.....	.....	†	.....	.....	.....	.....	.....
Zoology	.....	.....	.....	†	.....	.....	.....	.....	.....
Book-keeping	.....	.....	.....	.....	†	.....	.....	.....	.....
Physics	.....	.....	.....	.....	†	.....	.....	.....	.....
Physiology	.....	.....	.....	.....	†	.....	.....	.....	.....
Botany	.....	.....	.....	.....	.....	†	.....	.....	.....
Word Analysis	.....	.....	.....	.....	.....	†	.....	.....	.....
Pedagogy	.....	.....	.....	.....	.....	†	.....	†	†
Algebra	.....	.....	.....	†	†	†	†	†	.....
Geology*	.....	.....	.....	.....	.....	.....	†	.....	.....
School Law and Ethics*	.....	.....	.....	.....	.....	.....	†	.....	.....
Geometry	.....	.....	.....	.....	.....	.....	†	†	.....
Chemistry	.....	.....	.....	.....	.....	.....	.....	†	.....
Civil Government	.....	.....	.....	.....	.....	.....	.....	.....	†
Astronomy	.....	.....	.....	.....	.....	.....	.....	.....	†
English Literature	.....	.....	.....	.....	.....	.....	.....	.....	†

† Indicates the place of study in the course.

* Optional.

REMARKS ON THE COURSE OF STUDY.

The Course of Study has been arranged in accordance with the order of mental development, and the successive studies are intended to furnish the healthful, educative discipline which the growing mind requires in order to produce complete and distinctive character.

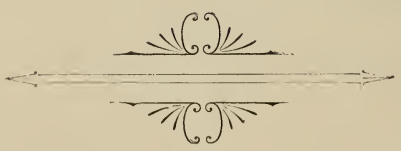
Believing that there is no subject of human thought which will not return large dividends in the form of mental growth to an investment of earnest, sustained labor, the course has, nevertheless, been composed of those studies which will be of practical benefit in every-day life, as well as conducive to higher intellectual ability.

The importance of following the course in the selection of work can not be urged too strongly upon the student.

No time is lost in finishing the lower branches before proceeding to the higher, and much is gained in the way of clearer comprehension, definiteness of ideas, and more tenacious memory.

Pupils are requested not to leave any study half-done, unless it is impossible to do otherwise.

Fragmentary knowledge, though indeed of much worth, is not to be compared for a moment to that deep, thorough, connected knowledge which distinguishes the true scholar.



TIME TABLE.

FIRST TERM.

1.	C	Reading.	D	Grammar.
2.	C	Geography.	F	Arithmetic.
3.	B	History.	C	Arithmetic.
4.	C	Drawing.	E	Algebra.
5.		Rhetoric.		School Law and Ethics.
6.		Zoology.	B	Geometry.
7.		Geology.	B	Algebra.
8.		General History.		

SECOND TERM.

1.	B	Reading.	C	Grammar.
2.	B	Geography.	E	Arithmetic.
3.	A	History.	B	Arithmetic.
4.	B	Drawing.		Book-keeping.
5.		Physiology.		Physics.
6.		Theoretical Pedagogy.	D	Algebra.
7.		Chemistry.	A	Algebra.
8.			A	Geometry.

THIRD TERM.

1.	A	Reading.	B	Grammar.
2.	A	Geography.	D	Arithmetic.
3.	A	Drawing.		Word Analysis.
4.		Writing.	C	Algebra.
5.		Physical Geography.	A	Grammar.
6.		Botany.	A	Arithmetic.
7.		History of Education. Practical Pedagogy.		Astronomy.
8.		English Literature.		Civil Government.

SYLLABUS.

PREFATORY NOTE ON SYLLABUS.

The syllabus is intended to show the general outlines of each subject as it is taught in the school. It should be studied in connection with the time-tables and tabulated course of study given elsewhere. The order of study is not preserved in the syllabus, but it is in the course. The syllabus is not a mere analysis of a text-book, but the record of work already performed in the school. A careful reading of it can not but support the claim of the school to thoroughness of work and advanced methods of presentation. Examination will show that wherever possible the aim kept steadily in view is to lead the pupil to make practical applications of his knowledge as fast as it is gained. There is no real education where the power of doing goes halting far behind the power of thinking. To insure thoroughness of understanding, examinations are held once a month, and a permanent record kept of the student's standing.

PEDAGOGY.

PRACTICAL PEDAGOGY.—SIXTH TERM.

A short study of the nature of man; the intellect, sensibilities and will; meaning and scope of education; correct order of education; training of the senses, memory, imagination and reason; training of the sensibilities, moral powers and the will; the attention; motives, preparation, and personal characteristics of the teacher; the schoolhouse, apparatus, etc.; organization; principles of management; bases and character of punishment; recitations and assignment of lessons; the teaching of particular subjects.

THEORETICAL PEDAGOGY.—EIGHTH TERM.

Meaning and scope of education; humanistic and realistic standpoints; basis of educational science; education of the body, intellect, emotions, and will; close study of the psychology of sensation, perception, conception, and attention; memory in education; mnemonic systems—training of the memory; cultivation of imagination, judgment, reason; school work of the teacher; different systems of organization contrasted and criticised; school buildings—rooms, lighting, warming, ventilation, furniture, etc; classification and duties of a teacher; programs; apparatus and books; registers;

emotional, moral and religious training; methods of school government; motives, and training of the will; nature and uses of punishment.

HISTORY OF EDUCATION.—Ninth Term.

Schools of the Jesuits; biographies of Ascham, Montaigne, Ratich, Milton, Comenius, Locke, Rousseau, Basedow, Pestalozzi, Jacotot, Herbert Spencer and Froebel; suggestions concerning the teaching of children; moral education; discussion of the kindergarten; thorough examination of the educational value of the American common schools.

SCHOOL LAW AND ETHICS.—Seventh Term.

A study of action and the springs that lead to it; governing principles of action; the right; conscience—its office and training; sources of the knowledge of right; rights and duties; motives, passions, and habits; the cardinal virtues; different ethical systems; duties to ourselves and to society; an analysis of the school law of Arizona.

POLITICAL GEOGRAPHY.—First Term.

North America, South America, United States—contour, relief, drainage, islands, cities, peoples, commerce, productions, religions, governments, etc.; historical geography; United States studied in detail; particular attention to the topography and resources of Arizona.

Second Term.

Europe and Asia treated in the same manner as above; places connected with high development in literature and art; the birthplaces of distinguished men, and the scenes of famous historical events, studied carefully; the British Isles in detail; manners, customs and civilization of the various peoples.

Third Term.

Africa, Australia, Oceanica—special studies of recent explorations; complete topical review of the year's work. Maps will be drawn nearly every day during the course, and attention given to all good methods of presenting the subject. Mathematical geography is taught inductively. The pupils are expected to look up most of their facts during this last term.

PHYSICAL GEOGRAPHY.—Sixth Term.

The relation of geography to other sciences; the earth as a planet; the earth's magnetism—compass, magnetic variations; geological history of the earth; forms and relations of land and water; relief of the continents; oceanic islands; volcanoes and earthquakes; drainage—rivers, lakes, etc; ocean waters—configuration of seabottoms, waves, currents, Ferrel's law, tides; the causes of climatic

variation; isothermal lines; constant and periodical winds; evaporation and precipitation; atmospheric electricity; fauna and flora of the earth—classification, laws of distribution, useful products; types and races of man; the earth's mineral products; physical features of the United States and Alaska.

HISTORY.

U. S. HISTORY.—FIRST AND SECOND TERMS.

Review of the world in the fifteenth century; period of discovery and exploration; settlement of the new world; early history of the settlements, and division of America among the European nations; the Indians—their life and wars; colonial customs; French and Spanish wars; the revolution—causes, history, results; formation of the republic; social customs in Washington's time; the presidents; wars with foreign nations—Tripoli, Algeria, England, Mexico—their causes, principal events and results; expansion of the Union—territorial and commercial growth; inventions; the changes of parties; the growth of slavery, and the outbreak of the civil war; history of the rebellion; recent political events; literature and art; general review. Maps will be drawn by the pupils wherever possible, and essays will be written on the more important subjects.

GENERAL HISTORY.—SEVENTH TERM.

Relation of history to science; the divisions of the caucasian type; ancient history—Egypt, Assyria and Babylonia, the Hebrews, the Phœniceans, Hindoos, Persians; Greece—Sparta and Athens, the Persian attack, the empire of Alexander; Rome—struggle for existence, the republic, the empire, the fall; appearance of the barbarians, and the formation of modern European countries; mediæval history—Saracens, Charlemagne, the feudal system; the crusades and the papal power; the merchant republics of Italy; modern history—revival of learning; maritime discoveries; Chas. V, of Spain, and Henry VIII, of England; Luther and the reformation; Elizabethan age; England under the Stuarts; Cromwell; age of Louis XIV; England under the Georges; Frederick the Great; rise of Russia; the French revolution; Napoleon Bonaparte; later French history, and the unification of Italy and Germans. Throughout the course special attention is paid to the manners, morals and civic attainments of the age under discussion. The growth of civilization and development of democratic institutions will be particularly observed.

CIVIL GOVERNMENT.—NINTH TERM.

The object, origin, and nature of civil government; different forms of government; peculiarity of that of the United States; colo-

nial governments; articles of confederation; ordinance of 1787; the constitution; territorial and state governments.

MATHEMATICS.

ARITHMETIC.—First Term.

Integral numbers and decimals—notation, numeration, addition, subtraction, multiplication, division; properties of numbers; divisors; cancellation; greatest common divisor; least common multiple; fractions—common, decimal; complex fractions; compound numbers, with their applications. Throughout the term constant drill in the use of signs, and in the solution of practical problems; drill in mental arithmetic.

Second Term.

Mensuration—plane surfaces, solids; percentage, with applications; analysis. Constant drill in use of symbols of operation, of aggregation, of relation; mental arithmetic.

Third Term.

Ratio and proportion; involution and evolution; applications of square root and cube root; progression—arithmetical and geometrical. Throughout the year frequent and thorough reviews will be made; both oral and written solutions will be required. Much attention will be paid to the proper use of symbols of operation, aggregation and relation. Readiness, speed, accuracy and thorough comprehension of the subject are our aims in the mathematics.

Fourth Term.

Thorough review of the fundamental operations; careful consideration of the meaning, and practice in the use of mathematical symbols; properties of numbers, divisors, multiples, etc., fully discussed; fractions; abbreviated processes; denominate numbers; measures in common use; longitude and time; metric system; percentage.

Fifth Term.

Applications of percentage—profit and loss, commission and brokerage, stocks, insurance, taxes, bankruptcy, interest, discount, promissory notes, partial payments, annual interest, compound interest, etc.; ratio and proportion; averages; progression; powers and roots; mensuration. Throughout the fourth and fifth terms many practical problems will be proposed for analysis and solution; continued attention will be paid to the use of signs, methods of solution, and abbreviated processes. It is expected that the student will be benefited largely by what he does.

ARITHMETIC.—NINTH TERM.

Review of the fundamental operations as applied to integral numbers, decimals, common fractions, percentage, etc., with special reference to methods of teaching.

ALGEBRA.—FOURTH TERM.

Preliminary definitions; notation; fundamental operations; factoring; fractions; simple equations.

FIFTH TERM.

Simultaneous equations; negative results; involution; evolution; theory of exponents; radicals; quadratic equations.

SIXTH TERM.

Arithmetical progression; geometrical progression; proportion; practical problems and general review.

SEVENTH TERM.

A thorough review of literal notation, symbols, fundamental operations, negative quantities, reciprocals, zero powers and negative exponents, factors, divisors and multiples, fractions, abbreviated processes, simple equations, involution and evolution, quadratic equations, inequalities, theory of exponents, ratio, proportion and series.

EIGHTH TERM.

Arrangements and permutations; binomial theorem; theory of probabilities; interest formulas; continued fractions; theory of limits; indeterminate coefficients; the differential method; general qualities of equations; Sturm's theorem; Horner's method of approximation.

GEOMETRY.—SEVENTH TERM.

Definitions; straight lines; plane angles; polygons; circles; theory of limits; proportion; comparison and measurement of the surfaces of regular polygons and circles, with application of principles.

EIGHTH TERM.

Planes; solid angles; polyhedrons; cylinders; cones; spheres.

Practical problems in geometry throughout the course.

ASTRONOMY.—NINTH TERM.

Facts necessary before beginning observation of the heavenly bodies; the diurnal motion of the stars—how to observe and interpret it; the celestial sphere; the equinoctial and horizon systems of circles; annual motion of stars and sun—method of observation and connection of the two motions; inequality of days and nights, and

the change of seasons, observed and interpreted; precession of the equinoxes; time; the moon—how to observe and interpret her motions; eclipses; the motions of the planets observed and explained; the attraction of gravitation; the Copernican theory, Newton's discoveries, Tycho Brahe's measurements, Kepler's laws; tides; celestial measurements; the sun, the planets, meteorids, comets, and the zodiacal light; the heavens beyond the solar system; the constellations and how to learn them; nebulæ. Throughout the entire time devoted to astronomy, students are required to faithfully observe the current celestial phenomena and to make maps of the constellations in view.

BOOK-KEEPING.—FIFTH TERM.

Definitions; books used; principles of journalization, posting; trial balance; balance sheet, inventories of resources and liabilities; closing ledger; statements; notes, drafts, checks, and names of persons connected therewith; interest, discount, exchange; partnership, commission, consignments, shipments, accounts sales, administrator's books, etc. Practical work throughout the term.

ENGLISH LANGUAGE.

READING.—FIRST TO THIRD TERM INCLUSIVE.

Phonics; orthography; articulation; accent and emphasis; position; breath; gesture; vocal organs; drill in calisthenics; methods of teaching; special attention to increasing the student's knowledge of English literature.

ORTHOGRAPHY.—FIRST TO THIRD TERM INCLUSIVE.

Oral and written; definitions; diacritical marks; use of dictionary; cultivation of an observant habit regarding words.

GRAMMAR.—FIRST TO THIRD TERM INCLUSIVE.

Orthography; classification of letters and sounds; parts of speech; parsing; syntax, sentence, phrase, clause, punctuation and capitalization. Daily drill in correct speech, and close criticism of all written work.

A GRAMMAR.—NINTH TERM.

General review of orthography, etymology, and syntax; parsing; analysis; letter writing—social and business correspondence; the use of diagrams; methods of teaching practical points of grammar.

RHETORIC.—FOURTH TERM.

Place of rhetoric in education; kindred sciences; purity, propriety, precision, style, etc.; rhetorical figures; critical study of literary productions. The essays, orations, letters, reviews, etc. prepared by the students make the course practically one of English composition.

ENGLISH LITERATURE.—NINTH TERM.

Beginning of English literature; formative influences of the English tongue; the formation of modern English, and the biographies of famous authors, from Chaucer to the present day, including a study of American literature, with analysis and critical estimation of the Shakespearean drama. Readings from the classics will be given every day during the term.

WORD ANALYSIS.—SIXTH TERM.

Classes of words; rules for spelling; the Latin element; the Greek element; the Anglo-Saxon element; miscellaneous derivatives; terms used in school studies.

NATURAL SCIENCE.

BOTANY.—SIXTH TERM.

The leaf—parts, venation, margin, base, apex, simple or compound; inflorescence—forms, œstivation, floral organs, floral envelopes; essential organs; stamens and pistils—parts and forms; fruits—kinds, dehiscent or indehiscent; study of roots and stems; phænogamous and cryptogamous plants; vegetable cells and tissues; absorption, circulation, absorption and respiration. Two months are allowed for the study of theoretical botany and one month for analysis of Arizona plants.

PHYSIOLOGY.—FIFTH TERM.

Definitions; organic and inorganic bodies; cells; bones; digestive organs and fluids; uses of the fluids; absorption; the lymphatics; respiratory organs, ventilation, circulation; anatomy, physiology, and hygiene of the heart; composition of the blood, illustrated with the microscope; temperature of the body, clothing, etc.; secretion; nervous system; insomnia, cause and cure; the senses—taste, smell, touch, vision, hearing, muscular and nervous senses, a study of the anatomy, physiology and hygiene of each; the larynx and the voice; effects of narcotics and stimulants. Illustration by means of charts, specimens, and microscope through entire course.

GEOLOGY.—SEVENTH TERM.

Dynamical geology—atmospheric agencies, formation of soil; aqueous agencies—rivers, theory of stratification, currents; ice, work of glaciers and icebergs, chemical action of water; organic agencies—formation of coal, iron, limestone, and the geographical distribution of species; igneous agencies—volcanoes, geysers, earthquakes, crust movements; structural geology—stratified rocks, dip, strike, conformity and unconformity; fossils; geologic time; igneous and metamorphic rocks; faults, fissures, mineral veins; mountain making; historical geology—a study of the geologic eras and their important characteristics. Samples of rock formations and fossils are used in study wherever possible.

CHEMISTRY.—EIGHTH TERM.

States of matter; atomic theory; classes of chemical compounds; nomenclature; acids, bases, and salts; halogens; compound radicals; classes of reactions; the elements, considered theoretically and practically; organic chemistry; alcohols; chemistry of cooking; oils, fats, and resins; chemistry of cleaning; chemical antidotes for poisons; practical analysis of compounds. Experiments by teacher or pupils will be performed every day during the course.

ZOOLOGY.—FOURTH TERM.

Practical uses of zoology; the cell; differences between animals and plants; classification—protozoa, coelenterata, crinoids, vermes, mollusca, crustaceans, insects, tunicata, vertebrata. A growing collection of geological specimens is utilized for illustration and practice in classification. The methods of preparing and mounting skins will be illustrated, and those who so desire can do practical work under the supervision of a teacher.

PHYSICS.—FIFTH TERM.

Properties of matter; dynamics; hydrostatics; hydrokinetics; pneumatics; acoustics; heat; optics; electricity. All subjects illustrated by experiments.

WRITING AND DRAWING.

WRITING.—THIRD TERM.

Position; practice of the muscular movement; form and size of letters; analysis; methods of teaching. We rely mainly on constant practice.

DRAWING.—FIRST, SECOND AND THIRD TERMS.

Straight lines; curves; designs; conventional forms; object drawing; perspective; use of crayons, etc.

LIST OF STUDENTS.

SPECIAL STUDENTS.

Jacob Politzer.
Romeo R. Root.

SENIOR CLASS.

Lee Gray.
Josephine Frankenberg.

STUDENTS OF FIRST AND SECOND YEARS.

Martha Gage	Tempe
T. F. Corbell	Tempe
Louis Corbell	Tempe
Leslie Everman	Mesa
Thos. E. Farish, Jr.	Phœnix
E. B. Goodwin	Tempe
Agnes Halbert	Tempe
Annie King	Tempe
Geo. W. Lewis	Mesa
Clara Miller	Tempe
Debbie I. Morris	Fort Verde
Lillian J. McAllister	Tombstone
Cassie Porter	Tempe
Gertrude Rogers	Florence
Lewis E. Spear	Tempe
Victoria B. Shaw	Phœnix
Chas. C. Woolf	Tempe
John T. Cave	Tempe
Leroy F. Hill	Tempe
Alice K. Holmesley	Tempe
Ruth Wharton	Phœnix
Bettie Sears	Tempe
Alexander Sears	Tempe
Ora J. Haggerty	Denver
Hattie Bryant (Mrs. H. Pierce)	Congress
William I. Melton	Buckeye
Birdie Hardwick	Florence
Katie Hardwick	Florence
Georgiana Rudy	Skull Valley
Catherine Rudy	Skull Valley
Edmund Spain	Buckeye

Emma Trimble.....Gila Bend
George Mahard.....Mesa
Katie Jones.....Lehi
Nannie Howard.....Tempe
Chas. P. Mullen.....Tempe
Della Vernon.....Tempe
Roy Root.....Tempe
Lida L. Rembert.....Tempe
Agnes Dobbie.....Silver King
Josephine Carroll.....Tempe
Daniel Genung.....Antelope
Aurelia Borques.....Phœnix
Robert Mullen.....Tempe
Mary Winger.....Tempe
Ernest Hudson.....Tempe
Alice Gray.....Phœnix
Nannie Barkley.....Phœnix
Hibberd Moore.....Tempe
Thos. E. Flannigan.....Tempe
Belle Schornick.....Mesa

ALUMNI.

CLASS OF 1886-87.

NAME.	BUSINESS.	POSTOFFICE.
Reese M. Ling	Taught two years—lawyer	Prescott
Georgie Holmesley	Taught four years	Cave Creek
Gertrude Pomeroy*	Taught two years	
Etta Broomell (Mrs. John Johnson).	Taught two years	Tempe
J. H. McClintock	Taught three years—printer	Phœnix

CLASS OF 1887-88.

Martha Sears	Taught three years	Phœnix
Kate Cummings (Mrs. Fisher Bailey).	Taught two years	Tempe
Henry Q. Robertson	Taught two years	Armer, Gila Co.

CLASS OF 1889-90.

Lena Coughran	Taught one year	Williamson Valley
Nanna Brown	Taught one year	Tempe
Russell White†		Tempe

CLASS OF 1890-91.

Lee Gray	Phœnix
Josephine Frankenberg	Tempe

* Deceased. † Received certificate of course finished.

TEXT BOOKS.

Reading	Cumnock's Choice Readings.
Rhetoric	Hill.
English Literature	Shaw.
Word Analysis	Swinton.
Political Geography	Harper.
Physical Geography	Appleton.
Arithmetic	White, Wentworth & Hill, Olney.
Algebra	Wentworth.
Geometry	Wentworth.
Astronomy	Bowen.
Zoology	Holder.
Physics	Avery.
Physiology	Tracy.
Botany	Gray.
Geology	Le Conte.
Chemistry	Meade.
Grammar	Conklin, Williams & Rogers.
History, United States	Eggleston.
General History	Swinton.
History of Education	Quick.
Practical Pedagogy	Hewitt.
Theoretical Pedagogy	Landon.
Ethics	Peabody's Moral Philosophy.
Orthography	Swinton.
Drawing	Krusi.
Writing	Spencer.
Civil Government	Andrews' Constitution.
Book-keeping	Williams & Rogers.

CALENDAR FOR 1891-1892.

The school year will consist of a continuous session of ten months.

The first term begins on Monday, September 7, 1891, and ends on Thursday, December 24, 1891.

The second term begins December 28, 1891, and ends March 18, 1892.

The third term begins March 21, 1892, and ends June 10, 1892.

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